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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,321	01/16/2001	Martin Weston	87805-9016	4846

23409 7590 04/13/2006

MICHAEL BEST & FRIEDRICH, LLP
100 E WISCONSIN AVENUE
MILWAUKEE, WI 53202

EXAMINER

TRAN, TRANG U

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,321

Applicant(s)

WESTON ET AL.

Examiner

Trang U. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 15 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. After consideration of the Pre-Appeal Brief Request filed Dec. 23, 2005, the finality of the last Office Action has been withdrawn.

Response to Arguments

2. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues, which respect to claim 1 in the pre-appeal brief and in the amendment filed July 7, 2005, that the effect of multiplying signals together is fundamentally different from the effect of adding together signals, each of which has been multiplied by a coefficient (so called weighted addition). Therefore, Chen does not disclose or suggest the claimed step of multiplying together the filtered signals as required by claim 1.

In response, the examiner respectfully disagrees. It is noted that claim 1 recites "multiplying together said three filtered signals to produce an output video signal". The word "together" can be defined in the "Merriam-Webster's Collegiate Dictionary, tenth edition, as **"at one time: SIMULTANEOUSLY"**. When "together" is interpreted as "simultaneously", the claimed "multiplying together the filtered signals" is anticipated by the multipliers 1006, 1008, 1010 and an adder 1012 of Fig. 8 of Chen (col. 7, line 56 to col. 8, line 14).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al (US Patent No. 6,335,990 B1).

In considering claim 1, Chen et al discloses all the claimed subject matter, note 1) the claimed comprising the steps of conducting the linear filtering operations on an input video signal to produce filtered signals, linear filtering operation comprising the taking of a weighted sum of pixels is met by the three linear 2-tap recursive filters 1000, 1002, 1004 (Figs. 8-9, col. 7, line 13 to col. 9, line 55), and 2) the claimed three linear filtering operations on an input video signal to produce three filtered signals, and multiplying together said three filtered signals to produce an output video signal is met by the outputs of three linear 2-tap recursive filters multiplies the filtered value by a weighting value and then sums the product for each dimension to provide the new filtered value 708 for a particular pixel (Fig. 8, col. 7, line 13 to col. 8, line 14).

In considering claim 2, the claimed wherein said weighted sum is taken over pixels of the input video signal defined by a filter aperture is met by is met by the three linear 2-tap recursive filters 1000, 1002, 1004 (Figs. 8-9, col. 7, line 13 to col. 9, line 55).

In considering claim 3, the claimed wherein all three linear filtering operations have the same filter aperture is met by the three linear 2-tap recursive filters 1000, 1002, 1004 (Figs. 8-9, col. 7, line 13 to col. 9, line 55).

In considering claim 4, the claimed wherein for at least one linear filtering operation, the taking of a weighted sum of pixels includes the output pixel of the respective linear filtering operation is met by one of the three linear 2-tap recursive filters 1000, 1002, 1004 (Figs. 8-9, col. 7, line 13 to col. 9, line 55).

In considering claim 6, the claimed said three filtered signals are multiplied together without intervening filtering of the three filtered signals is met by the outputs of three linear 2-tap recursive filters multiplies the filtered value by a weighting value by the multipliers 1006, 1008, 1010 and then sums the product for each dimension to provide the new filtered value 708 for a particular pixel (Fig. 8, col. 7, line 13 to col. 8, line 14).

In considering claim 7, the claimed wherein a further linear filtering operation is conducted in parallel on the input video signal, with the result of said further linear filtering operation being combined with the multiplication product of said three filtered signals to produce an output video signal is met by the three linear 2-tap recursive filters 1000, 1002, 1004 and the adder 1012 (Figs. 8-9, col. 7, line 13 to col. 9, line 55).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US Patent No. 6,335,990 B1).

In considering claim 15, Chen et al disclose all the limitations of the instant invention as discussed in claim 1 above, except for providing the claimed wherein a filter is interposed between the output of the second multiplier and said combiner. The capability of using the filter is old and well known in the art. Therefore, the Official Notice is taken. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the old and well known use of a filter interposed between the output of the second multiplier and said combiner into Chen et al's system in order to increase the quality of the video signal because the filter is used for filtering noises.

Allowable Subject Matter

7. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 8-14 allowed.

The independent claim 8 identifies the distinct features: "a first multiplier for multiplying together the respectively outputs of the first and second linear filters; and a second multiplier for multiplying together the respective outputs of the first multiplier and the third linear filter to produce an output video signal". The prior arts, Chen et al (US Patent No. 6,335,990 B1), either singularly or in combination, fail to anticipate or render the about underlined limitations obvious.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT TT

April 5, 2006



DAVID OMETZ
SUPERVISORY PATENT EXAMINER